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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

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|-------|---|----|---|------------------------|------------------|
| Sheet | 1 | of | 2 | Complete if Known | |
| | | | | Application Number | 10/815,117 |
| | | | | Filing Date | 07-07-2003 |
| | | | | First Named Inventor | Barin G. Haskell |
| | | | | Group Art Unit | 2613 |
| | | | | Examiner Name | An, Shawn S. |
| | | | | Attorney Docket Number | APLE.P0035 |

U.S. PATENT DOCUMENTS

| Examiner's Initials | Cite No. ¹ | U.S. Patent Document | | Publication Date | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|---------------------|-----------------------|----------------------|-----------------------------------|------------------|---|---|
| | | Number ² | Kind Code ³ (if known) | MM-DD-YYYY | | |
| SJ | 1. | 5,790,131 | A | 08-04-1998 | Liang, et al. | |
| SJ | 2. | 5,867,221 | A | 02-02-1999 | Pullen, et al. | |
| SJ | 3. | 5,872,598 | A | 02-16-1998 | Legall, et al. | |
| SJ | 4. | 5,923,376 | A | 07-13-1999 | Pullen, et al. | |

FOREIGN PATENT DOCUMENTS

| Examiner's Initials | Cite No. ¹ | Foreign Patent Document | | Date of Publication MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁴ |
|---------------------|-----------------------|-------------------------|---|--------------------------------|---|---|----------------|
| | | Office ⁵ | Number ⁶ (if known) ⁷ | | | | |
| SJ | 5. | AU | 2,597,697 | A 10-22-1997 | Iterated Systems, Inc. | See Int'l. Search Rep.- Form PCT/ISA/210 (Counterpart to US 5923376 A) | |
| SJ | 6. | AU | 3,208,897 | A 12-05-1997 | Iterated Systems, Inc. | See Int'l. Search Rep.- Form PCT/ISA/210 (Counterpart to US 5780131 A) | |
| SJ | 7. | EP | 0,880,265 | A1 01-13-1999 | Iterated Systems, Inc. | See Int'l. Search Rep.- Form PCT/ISA/210 (Counterpart to US 5923376 A) | |
| SJ | 8. | WO | 9,737,495 | A1 10-09-1997 | Iterated Systems, Inc. | See Int'l. Search Rep.- Form PCT/ISA/210 (Counterpart to US 5923376 A) | |

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|--------------------|------------|-----------------|---------------|
| Examiner Signature | <i>Btr</i> | Date Considered | <i>2/3/06</i> |
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| | | | | First Named Inventor | Barin G. Haskell |
| | | | | Group Art Unit | 2613 |
| | | | | Examiner Name | An, Shawn S. |
| Sheet | 2 | of | 2 | Attorney Docket Number | APLE.P0035 |

| FOREIGN PATENT DOCUMENTS | | | | | | | |
|---|----|----|-----------|----|------------|------------------------|---|
|  | 9. | WO | 9,743,860 | A1 | 11-20-1997 | Iterated Systems, Inc. | See Int'l. Search Rep.- Form PCT/ISA/210 (Counterpart to US 5780131 A) |

| NON PATENT LITERATURE DOCUMENTS | | | | | | | | |
|---|-----------------------|---|--|--|--|--|--|--------------|
| Examiner Initials | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | | | | | | ² |
|  | 10. | CHOI, J., et al., "A Stable Feedback Control of the Buffer State Using the Controlled Language Multiplier Method," <i>IEEE Transactions on Image Processing</i> , September 1, 1994, pp. 546-558, Vol. 3 No. 5, IEEE Inc., New York, US. | | | | | | |
|  | 11. | LEE, W. Y., et al., "Fast Algorithm for Optimal Bit Allocation in a Rate-Distortion Sense," <i>Electronics Letters</i> , September 26, 1996, pp. 1871-1873, Vol. 32 No. 20, Stevenage, Herts, GB. | | | | | | |
|  | 12. | YANG, Y., et al., "Rate-Distortion Optimizations for Region and Object Based Wavelet Video Coding," <i>Conference Record of the 34th Asilomar Conference on Signals, Systems & Computers</i> , October 29, 2000, pp. 1363-1368, Vol. 2 of 2 Conf 34, IEEE, New York, US. | | | | | | |

| | | | |
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| Examiner Signature |  | Date Considered | 2/3/06 |
|--------------------|---|-----------------|--------|

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| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Application Number 10/615,117 Filing Date 07/07/2003 First Named Inventor Barin Haskell Group Art Unit 2613 Examiner Name An, Shawn S. |
| SHEET | 3 | OF | 3 | Attorney Docket Number APLE.P0035 |

| NON PATENT LITERATURE DOCUMENTS | | | |
|--|-----------------------|---|--------------|
| Examiner Initials | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
| <i>SJ</i> | 11. | WIEGAND T., et. al., "Lagrange Multiplier Selection in Hybrid Video Coder Control," <i>Proceedings 2001 International Conference on Image Processing</i> , October 7, 2001, pages 542-545, vol. 1 of 3, conf. 8, IEEE, US. | ² |
| <i>SJ</i> | 12. | MEI-YIN, SHEN, et. al., "Fast Compression Artifact Reduction Technique Based on Nonlinear Filtering," <i>Proceedings of the 1999 IEEE International Symposium on Circuits and Systems</i> , May 30, 1999, pages 179-182, IEEE, US. | |
| <i>SJ</i> | 13. | SCHWARZ, H., et. al., "An Improved H.26L Coder Using Lagrangian Coder Control," <i>ITU Telecommunications Standardization Sector Study Group 16</i> , October 18, 2001, pages 1-8, (whole document). | |
| <i>SJ</i> | 14. | SEGALL C. A., et. al., "Pre- and Post-Processing Algorithms for Compressed Video Enhancement," <i>Conference Record of the 34th Asilomar Conference on Signals, Systems, & Computers</i> , October 29, 2000, pages 1369-1373, vol. 2 of 2, conf. 34, IEEE, US. | |
| <i>SJ</i> | 15. | SEUNGJOON, YANG, et. al., "Blocking Effect Removal Using Regularization and Dithering," <i>1998 International Conference on Image Processing</i> , October 4, 1998, pages 415-419, IEEE Comput. Soc., US. | |
| <i>SJ</i> | 16. | MEI-YIN, SHEN, et. al., "Real-time Compression Artifact Reduction Via Robust Nonlinear Filtering," <i>1999 International Conference on Image Processing</i> , October 24, 1999, pages 565-569, IEEE, US. | |
| <i>SJ</i> | 17. | DUMITRAS, A., et. al., "Enhancement of Direct Mode Selection in B Pictures for Bit Rate Reduction of Compressed Video Sequences," <i>2003 International Conference on Image Processing</i> , September 14, 2003, pages 825-828, vol. 3, IEEE, US. | |
| <i>SJ</i> | 18. | KOSENTINI, F., et. al., "Predictive RD Optimized Motion Estimation for Very Low Bit-Rate Coding," <i>IEEE Journal on Selected Areas in Communications</i> , December 1, 1997, pages 1752-1763, vol. 15, no. 9, IEEE Inc., New York, US. | |
| <i>SJ</i> | 19. | ZHU Q.-F., et. al., "Image Reconstruction for Hybrid Video Coding Systems," <i>Data Compression Conference</i> , March 24, 1992, pages 229-238, IEEE Comput. Soc., US. | |

| | | | |
|--------------------|-----------|-----------------|---------------|
| Examiner Signature | <i>SJ</i> | Date Considered | <i>2/3/06</i> |
|--------------------|-----------|-----------------|---------------|

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¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

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| Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i> | | | | Application Number | 10/615,117 |
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| | | | | First Named Inventor | Barin Haskell |
| | | | | Group Art Unit | 2813 |
| | | | | Examiner Name | An, Shawn S. |
| | | | | Attorney Docket Number | APLE.P0035 |

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|-----|----|-----------------------------------|----|------------|---|
| | | | | | | Report (10-01-2004) Form PCT/ISA/210, sheet 7 |
| <i>SP</i> | 8. | AU | 3054701 | A | 08-20-2001 | Mitsubishi Electric Corp. Counterpart patent to EP 1170954 Please see Int'l Search Report (10-01-2004) Form PCT/ISA/210, sheet 7 |
| <i>SP</i> | 9. | WO | 0160075 | A1 | 08-16-2001 | Mitsubishi Electric Corp. Counterpart patent to EP 1170954 Please see Int'l Search Report (10-01-2004) Form PCT/ISA/210, sheet 7 |
| | 10. | | International Search Report | | 10-01-2004 | International Search Report for APLE.P0040PCT |

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| Examiner Signature | <i>[Signature]</i> | Date Considered | <i>2/6/06</i> |
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| | | | | Group Art Unit | 2613 |
| | | | | Examiner Name | An, Shawn S. |
| | | | | Attorney Docket Number | APLE.P0035 |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|-----------------------|----------------------|-----------------------------------|---|---|
| Examiner's Initials | Cite No. ¹ | U.S. Patent Document | | Name of Patentee or Applicant of Cited Document | Date of Publication MM-DD-YYYY |
| | | Number | Kind Code (if known) ² | | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| SJ | 1. | 6,493,385 | B1 | Sekiguchi, et. al. | 12-10-2002 |
| SJ | 2. | 6,493,386 | B1 | Vetro, et. al. | 12-10-2002 |
| SJ | 3. | 6,490,320 | B1 | Vetro, et. al. | 12-03-2002 |
| SJ | 4. | 6,574,279 | B1 | Vetro, et. al. | 06-03-2003 |

| RELATED U.S. PATENT DOCUMENTS | | | | | |
|-------------------------------|-----------------------|----------------------|--|---------------------------|--|
| Examiner's Initials | Cite No. ¹ | U.S. Patent Document | | Date of filing MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
| SJ | 5. | US 2004/0131121 | | A1 | 07-08-2004 |
| | | Dumitras, et. al. | | | This is attorney docket number APLE.P0040, a related application |

| FOREIGN PATENT DOCUMENTS | | | | | |
|--------------------------|-----------------------|-------------------------|---------------------|-----------------------------------|---|
| Examiner's Initials | Cite No. ¹ | Foreign Patent Document | | Date of Publication MM-DD-YYYY | Name of Patentee or Applicant of Cited Document |
| | | Office ³ | Number ⁴ | Kind Code (if known) ⁵ | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| SJ | 6. | EP | 1170954 | A1 | 01-08-2002 |
| SJ | 7. | WO | 9922525 | A1 | 05-08-1999 |
| | | | | | Mitsubishi Electric Corp. |
| | | | | | Counterpart publication to US 6493385 |
| | | | | | Please see Int'l Search |

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